

GABASHVILI, V.M.

Clinical aspects and pathophysiology of writers' cramp. Zhur.  
vys.nerv.deiat. 6 no.2:234-241 Mr-Apr '56. (MIRA 9:8)

1. Institut nevrologii Akademii meditsinskikh nauk SSSR.  
(CRAMP  
writers' cramp, clin. aspects & pathophysiol.)

GABASHVILI, Vladimir Mikhaylovich, kand.med.nauk; SARADZHISHVILI,  
P.M., red.; YANKOSHVILI, TS.A., red. izd-va; TODUA, A.R.,  
tekh. red.

[Writers' spasm; its clinical aspects and treatment] Pischii  
spazm; klinika i lechenie. Tbilisi, Izd-vo Akad.nauk Gruzins-  
skoi SSR, 1961. 110 p. (MIRA 15:7)

1. Institut klinicheskoy i eksperimental'noy nevrologii Akade-  
mii nauk Gruzinskoy SSR (for Gabashvili).  
(WRITERS' CRAMP)

GABASHVILI, V. N. and others.

Transport Adzharskoi ASSR. Transportation in the Adzhar ASSR. (Bol. sov. ents., 2. ed., 1949, v. 1, p. 405). map inserted in p. 45.

DLC: AE55.B6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

15-57-5-5894

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5,  
p 24 (USSR)

AUTHOR: Gabashvili, Ye. G.

TITLE: Miocene Antelopes in the Stored Collection of the  
Georgian State Museum (Miotsenovyye antilopy, khran-  
yashchiyesya v fondakh Gosmuzeya Gruzii--in Georgian)

PERIODICAL: Vestn. Gos. muzeya Gruzii, 1956, vol A17, pp 15-26.

ABSTRACT: The author describes remains of the antelopes Gazella  
deperdita Gaudry, Tragocerus sp., T. leskewitschi  
Borissiak, T. frolovi Pavl. (?) var. eldaricus n. var.,  
and T. sp. (frolovi) (?) Pavl. in the collection of the  
State Museum of Georgia. These remains are from the  
Pliocene at Urmiya (collected by V. V. Bogachev in 1916)  
and from the upper Sarmatian of El'dar and Udabno.  
Brief geological accounts and summaries of the studies  
of these formations are given. One table and a biblio-  
graphy with 19 references are provided.

Card 1/1

Ye. I. B.

41180  
8/140/62/000/005/002/004  
D237/D308

16.2400

AUTHOR: Gabaev, R.

TITLE: On the stability of solutions of differential operator equations subject to steady perturbations

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, no. 5, 1962, 29 - 38

TEXT: Two equations are considered:

$$dx/dt = f(x, t) \quad (1.1)$$

where  $x$  - element of the Banach space  $X$ ; the operator  $f(x, t) \in X$ , is continuous in  $t$  and satisfies Lipschitz condition in  $x$ ;  $\theta$  - null element of  $X$ ,  $\|x\| \leq H$ ,  $t \geq t_0$  and  $f(\theta, t) = \theta$ ,  $t \geq t_0$ .

$$dx_n/dt = f_n^p(x_n, t) \quad (1.3)$$

where  $x_n$  - element of  $X_n$  belonging to the sequence of  $B$  - spaces

$\{X_n\}$ ,  $f_n^p(x_n, t) \in \{f_n^p(x_n, t)\}$ ,  $p = 1, 2, \dots$ ,  $f_n^p(x_n, t) \in X_n$ ,  $p = 1$ ,  
Card 1/2

GABASOV, R. (Sverdlovsk)

Problem concerning the soleness of optimum control in discrete  
control systems. Izv. AN SSSR. Otd. tekhn. nauk. Energ. i avtom.  
no.5:99-106 S-O '62. (MIRA 15:1)  
(Automatic control)

GABASOV, R. (Sverdlovsk)

Optimal processes in discrete-type joint control systems. Avtom.  
i telem. 23 no.7:872-880 J1 '62. (MIRA 15:9)  
(Automatic control)

16 8000

S/020/62/144/004/002/024  
B172/B112

AUTHOR: Gabasov, R.

TITLE: Optimum processes with restriction to cycles

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 4, 1962, 699-702

TEXT: Processes are considered such as are described by the equation

$$x(n+1) = Ax(n) + bu(n)$$

where  $x = \{x_1, \dots, x_l\}$ ,  $A$  is a constant square matrix of the order  $l$ ,  $b$  is a constant vector. A process is optimal if the control function  $u$  is so chosen that, under certain conditions, starting from a given point  $x(0)$ , the point  $x(n)$  reaches another given point after a minimum number of steps. For four classes of what are called cyclic conditions, the optimum control function is given explicitly; e.g. for

$$\max_{0 \leq k \leq N} \sum_{i=k(i)}^{(k+1)\omega-1} |u_i| \leq 1$$

Card 1/2



Optimum processes with...

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( $\omega$  is the number of steps of a cycle;  $K$  is the total number of the necessary steps,  $N$  is determined from  $N\omega < K \leq (N+1)\omega$ ; By definition  $u(n) = 0$  for  $K \leq n \leq (N+1)\omega$ ). The author arrives at the solutions by reducing the problem to an  $L$  problem of the moment theory. ✓

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural Polytechnic Institute imeni S. M. Kirov)

PRESENTED: December 15, 1961, by L. S. Pontryagin, Academician

SUBMITTED: December 14, 1961

Card 2/2

L 10251-63 EWT(d)/FCC(w)/BDS AFFTC/ASD/APGC Pg-4/Pk-4/P1-4/Po-4/  
Pq-4 OG/BC/IJP(C)  
ACCESSION NR: AP3001085 S/0103/63/024/006/0757/0763

AUTHOR: Gabasov, R. (Sverdlovsk); Kirillova, F. M. (Sverdlovsk) 178

TITLE: Optimum processes in coordinated control systems 9

SOURCE: Avtomatika i telemekhanika, v. 24, no. 6, 1963, 757-763

TOPIC TAGS: coordinated automatic-control systems

ABSTRACT: Optimum processes in two controlled systems are analyzed mathematically. Both systems contain parameters which are so selected that a transient process in one of the systems is finished in a shortest time while phase coordinates of the other system are limited in a specified way. The latter requirement makes both systems coordinated. The problem was formulated by A. A. Fel'dbaum (Computers in automatic systems, Fizmatgiz, 1959). Orig. art. has: 2 figures and 16 formulas.

ASSOCIATION: none 16C

SUBMITTED: 14Sept62

DATE ACQD: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 007

OTHER: 002

Card 1/1

L 18402-63

Pg-4 BC

EW(d)/BDS

AFFTC/ASD/AFGC/IJP(C)

Pg-4/Pk-4/Pl-4/Po-4/

ACCESSION NR: AP3003737

S/0103/63/024/007/0900/0905

75

AUTHOR: Gabasov, R. (Sverdlovsk); Kirillova, F. M. (Sverdlovsk)

TITLE: Optimum control of discrete type coupled systems

SOURCE: Avtomatika i telemekhanika, v. 24, no. 7, 1963, 900-905

TOPIC TAGS: discrete automatic system, optimum control

ABSTRACT: An automatic-control system<sup>a</sup> is considered which consists of a controlled unit, a controller, and a second unit which is affected by the controlling of the first unit. Hence, in addition to the constraints imposed by the main control loop, other constraints determined by the second unit have to be taken into account. The entire system is described by appropriate equations, and the latter are solved by the method of matrix functions. Orig. art. has: 1 figure and 40 formulas.

ASSOCIATION: none

SUBMITTED: 19 Oct 62

SUB CODE: IE

Card 1/1

DATE ACQ: 02 Aug 63

NO REF SOV: 007

ENCL: 00

OTHER: 000

GABASOV, R.; KIRILLOVA, F. N. (Sverdlovsk)

"Application of the theory of linear inequalities to optimal control problems"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 1964.

ACCESSION NR: AP4015301

S/0280/64/000/001/0132/0142

AUTHOR: Gabasov, R. (Sverdlovsk); Kirillova, F. M. (Sverdlovsk)

TITLE: Problems of optimum control

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 1, 1964, 132-142

TOPIC TAGS: optimum automatic control, optimum automatic control theory, controlling variable constraint, phase coordinate constraint, controllable order automatic system

ABSTRACT: Optimum processes are theoretically examined in coupled automatic-control systems which have a controlling-variable constraint and a phase-coordinate constraint in one of the component systems at predetermined moments of time. Systems are studied that contain, in addition to ordinary controls, free parameters in their right-hand members; the parameters can be selected at specified moments of time. By using the L-problem results, this form of the optimum control for a two-plant coupled automatic system (see Fig 1, Enclosure 1) has been developed:

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ACCESSION NR: AP4033354

S/0103/64/025/003/0312/0320

AUTHOR: Gabasov, R. (Sverdlovsk); Kirillova, F. M. (Sverdlovsk)

TITLE: Method for solving some problems of optimum control

SOURCE: Avtomatika i telemekhanika, v. 25, no. 3, 1964, 312-320

TOPIC TAGS: automatic control, optimum automatic control, terminal control, automatic control theory

ABSTRACT: A method proposed for solving the terminal-control problem is based on the theory of linear inequalities. This not only permits finding the transversal conditions for the movable right-hand end of a trajectory but also finding a way to calculate the initial conditions for a conjugate system and to investigate the function  $I^* = \min_u I(u)$  of the coordinates  $x_{10}, x_{20}, \dots, x_{n0}$  of the initial condition  $x_0$ . Here, the functional:

$$I(u) = (x_1^2(x_0, u, T) + \dots + x_n^2(x_0, u, T))^{1/2} = \|x(x_0, u, T)\|_2;$$

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ACCESSION NR: AP4033354

$x(x_0, u, t)$  is the trajectory of a fundamental differential equation which corresponds to the permissible control  $u = u(t)$ . Orig. art. has: 3 figures and 36 formulas.

ASSOCIATION: none

SUBMITTED: 17Jun63

DATE ACQ: 15May64

ENCL: 00

SUB CODE: DP, IE

NO REF SOV: 008

OTHER: 002

Card

2/2

BR

ACCESSION NR: AP4042491

S/0103/64/025/007/1058/1066

AUTHOR: Gabasov, R. (Sverdlovsk); Kirillova, F. M. (Sverdlovsk)

TITLE: Solving some problems in the theory of optimum processes

SOURCE: Avtomatika i telemekhanika, v. 25, no. 7, 1964, 1058-1066

TOPIC TAGS: automatic control, optimum automatic control, automatic control theory, movable ends automatic control

ABSTRACT: The problems of an optimum control with two movable ends are solved by a functional-analysis method. Problem 1: The motion of the plant is described by  $dx/dt = A(t)x + B(t)u$ , (1) where  $x = \{x_1, x_2, \dots, x_n\}$  is the vector of phase coordinates,  $A, B - (n \times n), (n \times r)$  are the matrices whose coefficients depend on time  $t$ ,  $u = \{u_1, u_2, \dots, u_r\}$  is the vector of the controlling variable. Vectors  $c$  and  $d$  are specified in the phase space of Equation (1). For specified  $t_0, T, \Delta, L$ , a

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ACCESSION NR: AP4042491

control  $u(t)$ ,  $t_0 \leq t \leq T$ ,  $\|u\| \leq L$ , is found which satisfies these conditions:  
 $\|x(t_0) - c\|_1 \leq \Delta$ ,  $\|x(T) - d\|_2 = \delta^0 = \min_u$ . Problem 2: For the same data as above, a  
 control is found which satisfies these conditions:  $\|x(t_0) - c\|_1 \leq \Delta$ ,  
 $\|x(T) - d\|_2 = \delta^0 = \max_u$ . Problems 3, 4, 5: Controls  $u(t)$ ,  $u \in U$ ,  $\|u\| \leq L$ , are found  
 satisfying these conditions:

$$\begin{array}{ll} \|x(t_0) - c\|_1 = \Delta^0 = \min, & \|x(T) - d\|_2 \leq \delta \\ \|x(t_0) - c\|_1 = \Delta^0 = \min, & \|x(T) - d\|_2 \geq \delta \\ \|x(t_0) - c\|_1 = \Delta^0 = \max, & \|x(T) - d\|_2 \leq \delta \end{array}$$

Problem 6, presenting two coordinates of different plants pursuing each other, is  
 also solved. "The authors wish to thank V. K. Ivanov for a very useful  
 discussion." Orig. art. has: 78 formulas.

ASSOCIATION: none

SUBMITTED: 09Aug63

ENCL: 00

SUB CODE: IE, DP

NO REF SOV: 005

OTHER: 001

Card 2/2

L 54015-65 EWT(d' Pg-4 IJP(c)

ACCESSION NR: AR5012985

UR/0044/65/000/003/B073/B073

SOURCE: Ref. zh. Matematika, Abs. 3B363

AUTHOR: Gabasov, R.

TITLE: The stability of differential-operator equations with a small parameter as coefficient of derivatives

CITED SOURCE: Tr. Ural'skogo politekhn. in-ta, sb. 139, 1964, 36-41

TOPIC TAGS: differential operator equation, derivative coefficient, differential equation stability, Banach space, asymptotically stable motion

TRANSLATION: The system

$$\frac{dx}{dt} = Ax + By,$$

$$\mu \frac{dy}{dt} = Cx + Dy,$$

(1)

is investigated, in which  $x \in X$ ,  $y \in Y$ ,  $X$  and  $Y$  are Banach spaces,  $A$ ,  $B$ ,  $D$ ,  $D$  are linear bounded operators, and  $\mu$  is a small parameter ( $\mu > 0$ ). It is assumed that there exists a bounded inverse operator  $D^{-1}$ . After introducing  $F = A - BD^{-1}C$ , and  $z(t, \mu) = (x(t, \mu), y(t, \mu))$ , let a motion  $z^0(t)$  be specified within

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L 54015-65

ACCESSION Nr: AR5012985

the space  $X + Y$ . The  $z^*(t)$  motion is called  $\varepsilon$ -asymptotically stable relative to the motion  $z(t, \mu)$  if, for the given numbers  $\varepsilon$  and  $H$ , there exists such a number  $T$  that for

$$\|z(t_0, \mu) - z^*(t_0)\| < H, \quad \|z(t, \mu) - z^*(t)\| < \varepsilon. \quad (1a)$$

The degenerate system obtained from (1) for  $\mu = 0$  is equivalent to the system

$$\begin{aligned} \frac{dx^*}{dt} &= Fx^*, \\ \mu \frac{dy^*}{dt} &= D^{-1}Gx^*. \end{aligned} \quad (2)$$

The solution of this system is denoted by  $z^*(t) = (x^*(t), y^*(t))$ . Theorem 1. If the spectrum of the operator  $F$  satisfies the conditions  $\operatorname{Re} \lambda \leq -\gamma$ ,  $\gamma > 0$  and operator  $D$  the condition  $\operatorname{Re} \nu \leq -\chi$ ,  $\chi > 0$ , then the motion  $z^*(t)$  of the system (2) for sufficiently small  $\mu$  is  $\varepsilon$ -asymptotically stable relative to the motion  $z(t, \mu)$  of the system (1), while  $\varepsilon \rightarrow 0$ ,  $T \rightarrow 0$ , provided  $\mu \rightarrow 0$  and  $H$  is fixed. In addition to the system (1), the system

$$\begin{aligned} \frac{dx_n}{dt} &= A_{nn}^0 x_n + B_{nm}^0 y_m, \\ \mu \frac{dy_m}{dt} &= C_{mn}^0 x_n + D_{mm}^0 y_m. \end{aligned} \quad (3)$$

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ACCESSION NR: AR5012985

is also studied; here  $A_{nn}^p$ ,  $B_{mn}^p$ ,  $C_{nm}^p$ , and  $D_{mm}^p$  are linear bounded operators. It is assumed that the operators  $A_{nn}^p$ ,  $B_{mn}^p$ ,  $C_{nm}^p$ , and  $D_{mm}^p$  tend in a specified way to the operators  $A$ ,  $B$ ,  $C$ , and  $D$ . Theorem 2. If the spectra of the operators  $F$  and  $D$  satisfy the conditions of Theorem 1, then there exist such  $\mu_0$ ,  $n_0$ ,  $m_0$ , and  $p_0$  that for  $\mu \leq \mu_0$ ,  $n \geq n_0$ ,  $m \geq m_0$ , and  $p \geq p_0$  the motion of the degenerate system

$$\frac{dx_n^p}{dt} = F_{nn}^p x_n^p - A_{nn}^p - B_{mn}^p (D_{mm}^p)^{-1} C_{nm}^p$$

is  $\xi$ -asymptotically stable relative to the motion of the system (3). Note that the proof of the theorem is applicable to the systems of integro-differential equations of the form

$$\begin{aligned} \alpha'_i(x, t) &= \int_a^b A(x, u) \alpha(u, t) du + \\ &+ \int_c^d B(x, v) \beta(v, t) dv + F_1(x) \alpha(x, t) + \Phi_1(x) \beta(x, t); \\ \mu \beta'_i(x, t) &= \int_a^b C(y, u) \alpha(u, t) du + \\ &+ \int_c^d D(y, v) \beta(v, t) dv + F_2(y) \alpha(y, t) + \Phi_2(y) \beta(y, t). \end{aligned} \quad (5)$$

G. Kamenskiy

SUB CODE: MA

ENCL: 00

Card 3/3

L 54013-65

ACCESSION NR: AR5012981

UR/0044/65/000/003/B054/B054

SOURCE: Ref. zh. Matematika, Abs. 3B264

AUTHOR: Gabasov, R.

5  
B

TITLE: One problem of the realization of programmed motion

CITED SOURCE: Tr. Ural'skogo politekhn. in-ta, sb. 139, 1964, 86-95

TOPIC TAGS: programmed motion, motion realization, periodic motion, degenerate system

TRANSLATION: The system

$$\frac{dx}{dt} = f(x, y, t) + B_1 u; \quad \mu \frac{dy}{dt} = g(x, y, t) + B_2 u, \quad (1)$$

is studied, in which  $x = (x_1, \dots, x_k)$ ,  $y = (y_1, \dots, y_l)$  are phase coordinate vectors,  $f = (f_1, \dots, f_k)$ ,  $g = (g_1, \dots, g_l)$  are periodic functions of time  $t$  with continuous bounded partial derivatives over  $x$ ,  $y$ , and  $t$ ;  $B_1$ ,  $B_2$  are constant  $k \times r$  and  $l \times r$  matrices, respectively;  $u = (u_1, \dots, u_r)$  is the control action; and  $\mu$  is a small parameter,  $> 0$ . The solution of the complete system (1) is denoted by  $z(t, \mu)$ , while  $z(t)$  is the solution of the degenerate system (1)

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L 54013-65

ACCESSION NR: AR5012981

for  $\mu = 0$ . The aim is to realize the given motion  $\varphi(t)$  by a proper choice of control  $u(t)$ . The motion  $\varphi(t)$  is considered realized if, for an arbitrary  $\varepsilon > 0$ , one can find numbers  $\delta > 0$  and  $l > 0$  such that  $\|z(t, \mu) - \varphi(t)\| < \varepsilon$  for  $t > t_0$  while  $\|z(t_0, \mu) - \varphi(t_0)\| < \delta$ , and the error of the realization of  $u(t)$  does not exceed 1. The realization problem is first investigated for the case of degenerate systems existing in the vicinity of the periodic motion  $\varphi(t)$  of the asymptotically stable periodic motion of the degenerate system. Subsequently, the results are extended to the case of the complete system and the behavior of the motion is investigated near  $\mu \rightarrow 0$ . Ye. Barbashin.

SUB CODE: MA

ENCL: 00

Card 2/2

GABASOV, R.; KIRILLOVA, F.M.

Optimization of convex functionals on the trajectories of  
linear systems. Dokl. AN SSSR 156 no. 5:1007-1010 Je '64.  
(MIRA 17:6)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova.  
Predstavleno akademikom L.S.Pontryaginym.

L 49288-65 EWT(d) Pg-4 IJP(c)  
ACCESSION NR: AP5007356

S/0042/65/020/001/0189/0195

AUTHOR: Gabasov, R.

TITLE: On the stability of stochastic systems having a small parameter applied to the derivatives 11  
B

SOURCE: Uspekhi matematicheskikh nauk, v. 20, no. 1, 1965, 189-196

TOPIC TAGS: linear differential equation, Liapounov function, approximation method, stochastic process, asymptotic stability

ABSTRACT: The behavior of solutions of a system of linear differential equations with a small parameter applied to the derivatives is studied for the case when the degenerate system is stable. The system studied is:

$$\frac{dx}{dt} = A(\gamma(t))x + B(\gamma(t))y,$$

$$\mu \frac{dy}{dt} = C(\gamma(t))x + D(\gamma(t))y,$$

where  $x$  is a  $k$ -dimensional vector,  $y$  and  $l$ -dimensional vector,  $A, B, C, D$  are matrices, and  $\mu$  is a small parameter. The second method of Liapounov is applied. Definitions of increasingly strict stability are given, beginning with mean-square

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ACCESSION NR: AP5007356

stability through asymptotic stability within probability, mean-square asymptotic stability, and, finally mean-square  $\epsilon$ -asymptotic stability. The theorem is stated and proved that if for system (1) one can find a function  $v(z, \gamma)$  which, together with the derivative  $\frac{dM[v]}{dt}$  computed along the trajectories of the system, satisfies the inequalities

$$b_2 \|z\|_2^2 < v(z, \gamma) < b_1 \|z\|_2^2,$$

$$\frac{dM[v]}{dt} < -b_3 \|z\|_2^2 + (f_1, z) \quad \text{for } \|z\|_2^2 > \epsilon_1,$$

$$\frac{dM[v]}{dt} < L\epsilon_1 + (f_2, z) \quad \text{for } \|z\|_2^2 < \epsilon_1,$$

where  $(f_1, z)$ ,  $(f_2, z)$  are scalar functions of Markov processes  $f(t)$  and  $z(t)$  satisfying the conditions

$$M\|(f_1, z)\|, z, f_1 < b_4 M\| \|z\|_2^2; z\|, M\|(f_2, z)\|; z, f_2 < K\epsilon_1, b_4 < b_1,$$

then there exists an  $\epsilon > 0$  such that the motion of  $z = 0$  is  $\epsilon$ -asymptotically stable in the mean relative to the motions of  $z(t, u)$  of system (1), and if  $\epsilon_1 \neq 0$  then  $\epsilon \rightarrow 0$ . The degenerate case of the system (1) is studied. It is shown that, for

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ACCESSION NR: AP5007356

sufficiently small values of the parameter, the motion of the system (1) is asymptotically stable within probability.

ASSOCIATION: none

SUBMITTED: 05 Jan 61

ENCL: 00

SUB CODE: MA

NO REF SOV: 006

OTHER: 001

05-4  
Card 3/3

1.00829-66 EFT(d)/EFT(n)-2/EIP(v)/EIP(y)/EIP(z)/EIP(1) 1.00829-66/10

ACCESSION NR: AP5015902

UR/0103/65/026/006/0966/0976

62-501.1

AUTHOR: Gabasov, R. (Sverdlovsk); Gindes, V. B. (Sverdlovsk)

TITLE: Optimal processes in the linear systems having two output-variable restraints

SOURCE: Avtomatika i telemekhanika, v. 26, no. 6, 1965, 966-976

TOPIC TAGS: optimal automatic control, automatic control, automatic control design, automatic control system, automatic control theory

ABSTRACT: The problem is theoretically considered of finding, among permissible controls  $u(\tau) \in U(t_0 \leq \tau \leq T)$ , such an optimal control  $u^0(\tau)$ , that the vector  $x(T, u^0)$  of the system state at the moment  $t = T > t_0$  has a minimum norm (length)  $\delta^0$ , i. e.:  $\delta^0 = \|x(T, u^0)\| \leq \|x(T, u)\|$  for all  $u \in U$ ,

or, in other terms:  $\|Su^0(\tau) + c(T)\| = \min_{u \in U} \|Su(\tau) + c(T)\| = \delta^0 \quad (t_0 \leq \tau \leq T)$ .

The above formula refers to this operator equation describing the state of the control system:

$$\dot{x}(t) = Su(\tau) + c(t) \quad (t_0 \leq \tau \leq t),$$

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ACCESSION NR: AP5015902

where:  $S$  is the linear operator that converts  $r$ -variable vector functions of control  $u(\tau)$  into the elements  $Su(\tau)$  of an  $n$ -variable phase space  $X$ ; the  $n$ -variable vector  $c(t)$  is the uncontrollable component of the vector  $x(t)$  of phase coordinates which depends on the initial conditions. Two sets of permissible controls are considered: (1) Modulus-constrained controls which also satisfy an integral limit and (2) Controls constrained along with their first derivatives. The theory of games is used for approximate solution of the problem. Orig. art. has: 80 formulas and 1 table.

ASSOCIATION: none

SUBMITTED: 28Apr64

ENCL: 00

SUB CODE: DP, IE

NO REF SOV: 010

OTHER: 002

Card 2/2

L 4200-66 INT(d)/ENP(v)/ENP(k)/ENP(h)/ENP(l) IJP(c) BC

ACCESSION NR: AP5023353

UR/0020/65/164/001/0016/0019

AUTHORS: Gabasov, R.; Kirillova, F. M.

TITLE: Statistical problem of optimal control of a linear system

SOURCE: AN BSSR. Doklady, v. 164, no. 1, 1965, 16-19

TOPIC TAGS: optimal control, probability, differential equation

ABSTRACT: The authors treat various problems concerning the minimization of  $\|x(T)\|$  where

$$\dot{x} = A(t)x + a(t)b(t)u + r(t), \quad x(t_0) = x_0, \quad \|u\| \leq 1, \quad (1)$$

when  $r(t)$  is a stochastic process. In one case  $\|x(T)\|$  is the expectation. Sometimes the solution is the same as if the problem were deterministic, in other cases it reduces to the solution of a game with a saddle point. The characteristics of the random vector which determines the optimal control in the posed problem are studied. It is shown that in certain cases the optimal control depends on the complete distribution of the random process. The authors relate this study to the maximum principle for a deterministic system. Orig. art. has: 9 formulas.

ASSOCIATION: Ural'skiy politekhnicheskii institut im. S. M. Kirova (Ural Polytechnical Institute)

Card 1/2

L 4200-66

ACCESSION NR: AP5023353

SUBMITTED: 03Dec64

ENCL: 00

SUB CODE: IE, MA

NO REF SOV: 006

OTHER: 000

Card 2/2 DP

L 21445-66 ENT(d)/EWP(v)/T/EWP(k)/ENP(h)/EWP(l) IJP(c)

ACC NR: AP6007858

SOURCE CODE: UR/0103/66/000/002/0005/0017

AUTHOR: Gabasov, R. (Sverdlovsk); Kirillova, F. M. (Sverdlovsk)

ORG: none

TITLE: Construction of successive approximations for certain optimal control problems

SOURCE: Avtomatika i telemekhanika, no. 2, 1966, 5-17

TOPIC TAGS: optimal control, terminal control, successive approximation

ABSTRACT: It is stressed that solving optimal control problems by means of the Pontryagin maximum principle is difficult because of the absence of effective means for determining the initial conditions (of the vector  $\psi_0$ ) for solving the conjugate system of equations by which the maximum principle is formulated. A method of convergent successive approximations is presented for determining  $\psi_0$  in certain problems of the theory of optimal control. This method is based on the geometric interpretation of the function  $\lambda(g)$ , where  $g$  is a set of vectors. (The method used here for solving optimal control problems is based on certain concepts of function analysis in which minimization of the performance functional is reduced to determining the extremum of the function  $\lambda(g)$ ). The linear control system described by the system of equations

$$\dot{x} = A(t)x + b(t)u, \quad x(0) = x_0, \quad (1)$$

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UDC: 62-505.7

L 21445-66

ACC NR: AP6007858

where  $x(t)$  is an  $n$ -dimensional vector function,  $A(t)$  is a matrix,  $b(t)$  is a vector, and  $u(t)$  is a selected control function for which the problem of the terminal control is analyzed. It is established that  $\lambda(g)$  is a concave function. This fact makes it possible to determine, by known methods, that value  $g^*$  optimizing the function  $\lambda(g)$ . It is shown that  $\lambda(g)$  is closely related to the pedal curve of the jet of points (set of attainability) which can be attained in time  $\tau (0 \leq \tau \leq T)$  moving from the point  $x_0$  along the permissible trajectory of equation (1). Using this geometrical interpretation, the procedure for successive approximations of the value  $g^*$  is presented. It is shown that the obtained sequence of approximations converges to the value  $g^*$ , but the rate of convergence of the iterative process is not analyzed. Modifications of the method are derived and their application to the solution of simple optimal control problems is presented. Orig. art. has: 11 formulas and 5 figures. [LK]

SUB CODE: /2 SUBM DATE: 08Feb65/ ORIG REF: 023/ OTH REF: 005/ ATD PRESS: 4221

Card 2/2 *uR*



ACC NR: AP6033930

SOURCE CODE: UR/0260/86/000/000/0000/0010

AUTHOR: Gabasov, R. (Sverdlovsk); Kirillova, F. M. (Sverdlovsk)

ORG: none

TITLE: Certain applications of functional analysis to the theory of optimal processes

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 4, 1966, 3-13

TOPIC TAGS: optimal control, mathematic analysis, variational problem, computer design, computer simulation

ABSTRACT: A functional analysis approach to problems in optimal control is discussed. The synthesis of optimal control is divided into three phases: 1) the reduction of the variational problem to operations with functions of a finite number of variables; 2) the investigation of the qualitative aspects of optimal processes, such as the question of realizability, uniqueness, continuous dependence of the solution upon the initial data and parameters, and the possibilities of boundary transitions from the solutions with one type of limitations to solutions with limitations of another type; and 3) the synthesis of computational operations and their experimental examination with respect to the speed of convergence and stability. The authors describe these synthesis phases in great detail, including experimentally proven computer algorithms, and investigate two concrete problems. Orig. art. has: 20 formulas.

SUB CODE: 12/

SUBM DATE: 15Nov65/

ORIG REF: 026/

OTH REF: 006

Card 1/1

ACC NR: AP6056021

SOURCE CODE: UR/0376/66/002/010/1289/1299

AUTHORS: Gabasov, R.; Churakova, S. V.

ORG: Ural Polytechnic Institute im. S. M. Kirov (Ural'skiy politekhnicheskii institut)

TITLE: One optimal-control problem in systems with an aftereffect

SOURCE: Differentsial'nyye uravneniya, v. 2, no. 10, 1966, 1289-1299

TOPIC TAGS: optimal control, mathematic space, vector, vector function, differential equation, matrix function, functional equation, algebraic equation

ABSTRACT: One optimal-control problem with retention of the trajectory at the coordinate origin for a finite time interval for a system with an aftereffect is examined. This work is based on an article by L. S. Pontryagin, V. G. Boltyanskiy, S. V. Gankrelidze, Ye. F. Mishchenko (Matematicheskaya teoriya optimal'nykh protsessov. M., Fizmatgiz, 1961). The motion of the object in question is described by a differential equation with a divergent independent variable:

$$\dot{x}(t) = A(t)x(t) + B(t)x(t-h) + C(t)u(t),$$

where  $x$  is an  $n$ -dimensional vector defined in the space  $X$ ;  $u(t)$  is an  $n$ -dimensional piecewise continuous vector function which belongs to the set of allowable controls  $U$ ;  $A(t)$ ,  $B(t)$ , and  $C(t)$  are continuous matrix functions. In the class of allowable controls, it is necessary to select a control  $u(t)$ ,  $0 \leq t \leq T$  such that the trajectory

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UDC: 517.949

ACC NR: AP6036021

of the above system satisfies the condition

$$x(t) \equiv 0, \quad T-h \leq t < T.$$

It is shown that, for given  $x^0$ ,  $\varphi(t)$ ,  $T$ , and  $h$ , in order that this problem have a solution, it is necessary and sufficient that the following inequality be satisfied:

$$\max_{\|g\|=1} \left\{ (g, e(T-h)) + \min_{u \in U_1} \left( g, \int_0^{T-h} F(T-h, \tau) C(\tau) u(\tau) d\tau \right) \right\} \leq 0.$$

Here  $g$  is any vector of unitary valuation. A control  $u^0(t)$  that for given  $x^0$ ,  $\varphi(t)$ , and  $h$  solves the initial problem in the minimum time is found. The authors thank F. M. Kirillova for discussion. Orig. art. has: 9 formulas.

SUB CODE: 12/ SUBM DATE: 30Nov65/ ORIG REF: 004

Card 2/2

GABAI, A. V. (Prof.)

"In Honor of Grigorli Abramovich Berdichevskiy," Khirurgiya, No. 8, 1948.

GIBLY, A. V. (Prof.)

"Surgical Operations and Psychoneurosis," Khirurgiya, No. 8, 1948. Moscow.

GABAY, A.V., prof.

Splenectomy in blood diseases in children. Khirurgiia 32 no.10:  
41-46 0 '56 (MIRA 12:7)

1. Iz kafedry khirurgii detskogo vozrasta (zav. - prof. A.V.  
Gabaj) Khar'kovskogo meditsinskogo instituta (dir. L.P. Kononenko).  
(BLOOD DISEASES, in inf. and child  
splenectomy, indic.)  
(SPLEEN, surg.  
excis. in blood dis., indic. in child.)

GABAY, A.V., professor (Khar'kov).

"Osteomyelitis in children" by I.S.Vengerovskii. Reviewed by  
A.V.Gabai. Ortop., travm. i protez. 18 no.1:75-76 Ja-V '57.  
(OSTEOMYELITIS) (MLRA 10:6)  
(VNGEROVSKII, I.S.)

GABAY, A.V., prof.

Splenectomy in Gaucher's disease in children. Probl.gemat. i perel.  
krovi 4 no.8:39-43 Ag '59. (MIRA 13:1)

1. Iz kafedry detskoy khirurgii (zav. - prof. A.V. Gabay) Khar'kov-  
skogo gosudarstvennogo meditsinskogo instituta.  
(LIPIDOSIS surg.)  
(SPLEEN surg.)



GABAY, A.V., doktor med.nauk, prof.

Suppurative processes of the soft tissues in children and their treatment. Azerb.med.zhur. no.5:57-62 My '59. (MIRA 12:8)

1. Zav.detskoy khirurgicheskoy klinikoy Khar'kovskogo meditsinskogo instituta (direktor - dots. I.F.Kononenko).  
(CHILDREN--DISEASES) (SUPPURATION)

GABAY, A. I.

"Surgical treatment of urinary incontinence caused by congenital anomalies of the urinary system" by A.I.Mikhel'son. Reviewed by A.Gabai. Zdrav.Belor. 5 no.7:75-76 J1 '59. (MIRA 12:9)  
(URINARY ORGANS--SURGERY) (URINE--INCONTINENCE)  
(MIKHEL'SON, A.I.)

GABAY, A.V., prof.

Kidney tumors in children. Kas.med.zhur. 41 no.1:46-51 Ja-F  
'60. (MIRA 13:6)

1. Iz kliniki detskoy khirurgii (sav. - prof. A.V. Gabay)  
Khar'kovskogo meditsinskogo instituta.  
(KIDNEYS--TUMORS)

GABAY, A.V., prof.

Surgery of the newborn. Azerb. med. zhur. no.12:44-50 D '60.  
(MIRA 13:12)

1. Iz kliniki detskoy khirurgii (zav. - prof. A.V. Gabay) Khar'kov-  
skogo meditsinskogo (dir. - dotsent B.A. Zadorozhnyy).  
(INFANTS (NEWBORN)—DISEASES)

KRAMARENKO, G.N., referent; TKACHENKO, S.S., referent, kand.med.nauk;  
KNYSH, I.T., referent, kand.med.nauk; KURILO, A.A., referent;  
KOSTRIKOV, V.S., referent, kand.med.nauk; ~~GABAY, A.V., referent,~~  
prof.; MARYASHINA, O.M., referent, kand.med.nauk

Reports on sessions of societies of traumatologists and orthopedists.  
Ortrop.travm.i protez. 21 no.4:83-93 Ap '60. (MIRA 13:9)  
(ORTHOPEDIC SOCIETIES)

GABAY, A.V., prof.

Treatment of cirrhosis of the liver in children by splenectomy.  
Pediatria 39 no.2:28-32 F '61. (MIRA 14:2)

1. Iz kliniki khirurgii (zav. - prof. A.V. Gabay) Khar'kovskogo  
meditsinskogo instituta (dir. - dotsent B.A. Zadorozhn'yy).  
(LIVER-CIRRHOSIS) (SPLEEN-SURGERY)

GABAY, A.V., prof.

Splenectomy in children and its sequelae. Kaz.med.zhur. no.4:29-31  
Jl-Ag '62. (MIRA 15:8)

1. Kafedra detskoy khirurgii (zav. - prof. A.V.Gabay) Khar'kovskogo  
meditsinskogo instituta.  
(~~SPLEEN~~-SURGERY)

GABAY, A.V., prof.

Differential diagnosis of congenital pyloric stenosis in  
children. *Pediatrics* 41 no.11:44-46 N°62 (MIRA 17:4)

1. Iz kliniki detskoy khirurgii ( av. - prof. A.V. Gabay)  
Khar'kovskogo meditsinskogo instituta.



GABAY, A.V., prof.

Gastrointestinal hemorrhages of nonulcerative origin in children  
and their diagnostic significance. Azerb. med. zhur. no.10:10-16  
0 '62. (MIRA 17:10)

1. Iz kliniki detskoy khirurgii (zav. - prof. A.V. Gabay) Khar'-  
kovskogo meditsinskogo instituta (rektor - dotsent B.A. Zadorozhnyy).

SKRIPNICHENKO, D.F., prof., red.; SHURINOK, A.R., prof., red.;  
GABAY, A.V., prof., red.; DMITRIYEV, M.L., prof., red.;  
KRISTICH, A.D., prof., red.; ZAYCHENKO, I.L., prof., red.;  
SITKOVSKIY, N.B., kand. med. nauk, red.; PARKHOMENKO, V.N.,  
red.

[Problems in pediatric surgery; transactions] Problemy khirurgii detskogo vozrasta; trudy. Kiev, Gosmedizdat USSR,  
1963. 257 p. (MIRA 17:5)

1. Ukrainskaya nauchno-prakticheskaya konferentsiya khirurgov detskogo vozrasta. 1st.

AKULOVA, R.F., prof.; ANTELAVA, N.V., prof.; AR'YEV, T.Ya., ~~prof.~~;  
 BAistrov, G.A., prof.; VELIKORETSKIY, A.N., prof.; ~~GABAY,~~  
~~A.V., prof. [deceased];~~ GILORYBOV, G.Ye., prof.;  
 DOBROVOL'SKIY, V.K., prof.; DOLINA, O.A., kand. med. nauk;  
 ZATSEPIN, T.S., prof.; KIRICHINSKIY, A.R., prof.; KOZLOVA,  
 A.V., prof.; KOTOV, A.P., prof.; KRAKOVSKIY, N.I., prof.;  
 KUZIN, M.I., prof.; L'VOV, A.N., prof. [deceased];  
 MITYUNIN, N.K., kand. med. nauk; MIVARELIDZE, Sh.I., prof.,  
 [deceased]; NOVACHENKO, N.P., prof., zasl. deyatel' nauki  
 USSR; OSIPOV, B.K., prof.; PIKIN, K.I., prof.; POSTNIKOV,  
 B.N., prof.; RAKOV, A.I., prof.; STRUCHKOV, V.I., zasl.  
 deyatel' nauki RSFSR, prof.; FAYERMAN, I.L., prof.  
 [deceased]; FILATOV, A.N., prof.; SIMELEV, I.V., prof.  
 [deceased]; PETROVSKIY, B.V., zasl. deyatel' nauki RSFSR,  
 prof., otv. red.

[Multivolume manual on surgery] Mnogotomnoe rukovodstvo po  
 khirurgii. Moskva, Meditsina. Vol.2. 1964. 771 p.  
 (MIRA 18:1)

1. Deystvitel'nyy chlen AMN SSSR (for Antelava, Petrovskiy).
2. Chlen-korrespondent AMN SSSR (for Baistrov, Novachenko,  
 Struchkov, Filatov).

CA

Summary, 6/19

9

High-chromium, high-speed steel. G. A. Gabai. *Trudy Tsentral Nauch.-Issledovatel. Inst. Ministerstva Sudostroitel. Prom. S.S.S.R.* 7, No. 3, 31-45 (1947). --In an investigation designed to find a high-Cr steel to replace high-W steel for the production of cutting tools, a steel containing C 0.85-0.95, W 2.0-2.5, Cr 7.0-8.0, V 2.5-3.0, and Si 0.5-0.7% was found adequate to replace steel RFI (up to 18% of W). Heat-treatment of this steel is discussed. After hardening, the higher the degree of forging the smaller is the grain.  
M. Huseh

GABAY, L.I.

VODNEV, G.G.; SHELKOV, A.K.; DIDENKO, V.Ye.; FILIPPOV, B.S.; TSAREV, M.N.;  
ZASHVARA, V.G.; LITVINENKO, M.S.; MEDVEDEV, K.P.; MOLODTSOV, I.G.;  
LIALOV, K.I.; RUBIN, P.G.; SAPOZHNIKOV, L.M.; TYUTYUNNIKOV, G.N.;  
DMITRIYEV, M.M.; LEYTES, V.A.; LERNER, B.Z.; MEDVEDEV, S.M.; REVIYAKIN,  
A.A.; TAYCHER, M.M.; TSOGLIN, M.E.; DVORIN, S.S.; RAK, A.I.; OBUKHOV-  
SKIY, Ya.M.; KOTKIN, A.M.; ARONOV, S.G.; VOLOSHIN, A.I.; VIROZUB, Ye.V.;  
SHVARTS, S.A.; GINSBURG, Ya.Ye.; KOLYANDR, L.Ya.; BELETSKAYA, A.F.;  
KUSHNAREVICH, N.R.; BRODOVICH, A.I.; NOSALEVICH, I.M.; SHTROMBERG, B.I.;  
MEROSHNIHENKO, A.M.; KOPELIOVICH, V.M.; TOPORKOV, V.Ya.; AFONIN, K.B.;  
GOFTMAN, M.V.; SEMENENKO, D.P.; IVANOV, Ye.B.; PEYSAKHZON, I.B.;  
KILAKOV, N.K.; IZRAELIT, E.M.; KVASHA, A.S.; KAPTAN, S.I.; CHERMNYKH,  
M.S.; SHAPIRO, A.I.; KHALABUZAR', G.S.; SEKT, P.Ye.; GABAY, L.I.;  
SHUL'SON, A.S.

Boris Iosifovich Kustov; obituary. Koks i khim. no.2:64 '55.(MLRA 9:3)  
(Kustov, Boris Iosifovich, 1910-1955)

6-17577, L.L.

ARONOV, Samuil Grigor'yevich; BAUTIN, Ivan Grigor'yevich; VOLKOVA, Zoya Andreyevna; VOLOSHIN, Arkhip Il'ich; VIROZUB, Yevgeniy Vladimirovich; GABAY, Lev Izrailevich, DIDENKO, Viktor Yefimovich; ZASHKVARA, Vasily Grigor'yevich; IVANOV, Pavel Aleksandrovich, KUSTOV, Boris Iosifovich [deceased]; KOTOV, Ivan Konstantinovich; KOTKIN, Aleksandr Matveyevich; KOMANOVSKIY, Maksim Semenovich; LEYTES, Viktor Abramovich, MOROZ, Mikhail Yakovlevich; NIKOLAYEV, Dmitriy Dmitriyevich. OBUKHOVSKIY Yakov Mironovich; RODSHTEYN, Pavel Moiseyevich; SAPOZHNIKOV, Yakov Yudovich, SENICHENKO, Sergey Yefimovich; TOPORKOV, Vasily Yakovlevich; CHERMNYKH Mikhail Sergeyevich; CHERKASSKAYA, Esfir' Ionovna, SHVARTS, Semen Aronovich; SHERMAN, Mikhail Yakovlevich; SHVARTS, Grigoriy Aleksandrovich; LIBERMAN, S.S., redaktor izdatel'stva; ANDREYEV, S.P., tekhnicheskii redaktor

[Producing blast furnace coke of uniform quality; a collection of articles for the dissemination of advanced practices] Poluchenie domennogo koksa postoiannogo kachestva; sbornik statei po obmenu peredovym opytom. Khar'kov, Gos.nauchno-tekhn.izd-vo lit-ry po cherno i tsvetnoi metallurgii, 1956. 300 p. (MLRA 9:8)  
(Coke industry)

SOV/68-59-7-14/33

AUTHOR: Gabay, L.I.

TITLE: On the Technology of Charging Coke Ovens

PERIODICALL: Koks i khimiya, 1959, Nr 7, pp 38 - 43 (USSR)

ABSTRACT: The problem of standardisation of charging procedure in order to utilise fully the working capacity of ovens and not to produce simultaneously an excessive amount of spillage is discussed. The procedure should be standardised for each works taking into consideration the moisture content and size distribution of the coal blend. Attention is drawn to the operation of the levelling arm (Figures 2 - 4).  
There are 4 figures.

ASSOCIATION: Zhdanovskiy koksokhimicheskiy zavod (Zhdanovskiy Coking Works)

Card 1/1

GABAY, L. I.

Full mechanization and automatization at the coking plant. Koks i  
khim. no.11:34-39 '60. (MIRA 13:11)

1. Zhdanovskiy koksokhimicheskiy zavod.  
(Zhdanov--Coking industry--Equipment and supplies)  
(Automatic control)



GABAY, L.I.

Self-sealing charging holes of coking chambers. Koks i khim.  
no. 5:28-29 '61. (MIRA 14:4)

1. Zhdanovskiy koksokhimicheskiy zavod.  
(Zhdanov—Coke ovens)

VOLOSHIN, A.I.; BOGOYAVLENSKIY, K.A.; AKHTYRCHENKO, A.M.; TURIK, I.A.;  
 ZHIDKO, A.S.; LYALYUK, V.S.; GABAY, L.L.; ONOPRIYENKO, V.P.;  
 STARSHINOV, B.N.; BABIY, A.A.; SAVELOV, N.I.; Primali  
 uchastiye: TORYANIK, E.I.; VASIL'YEV, Yu.S.; SHEMEL', T.I.;  
 SENYUTA, V.I.; BONDARENKO, I.P.; AMSTISLAVSKIY, D.M.;  
 ANDRIANOV, Ye.G.; SERGEYEV, G.N.; ZAMAKHOVSKIY, M.A.;  
 LYUKIMSON, M.O.; IVONIN, V.K.; TSIMBAL, G.I.; SEN'KO, G.Ye.;  
 KONAREVA, N.V.; SOLODKIY, Yu.L.; LUKASHOV, G.G.; TARASOV, D.A.;  
 GORBANEV, Ya.S.; SUPRUN, I.Ye.; TIKHOMIROV, Ye.I.; KONONENKO, P.A.;  
 PROKOPOV, V.N.; GULYGA, D.V.; PLISKANOVSKIY, S.T.; PONOMAREVA, K.Ye.

Effect of the length of coking on coke quality and the performance  
 of blast furnaces. Koks i khim. no.12:26-32 '61.

(MIRA 15:2)

1. Ukrainskiy uglekhimicheskiy institut (for Voloshin,  
 Bogoyavlenskiy, Akhtyrchenko, Turik, Zhidko, Lyalyuk, Toryanik,  
 Vasil'yev, Shemel'). 2. Zhdanovskiy koksokhimicheskiy zavod  
 (for Gabay, Senyuta, Bondarenko, Amstislavskiy, Andrianov,  
 Sergeyev, Zamakhovskiy, Lyukimson, Ivonin, Tsimbal). 3. Ural'skiy  
 nauchno-issledovatel'skiy institut chernykh metallov (for  
 Onopriyenko, Starshinov, Babi, Sen'ko, Konareva, Solodkiy).  
 4. Zavod "Azovstal'" (for Savelov, Lukashov, Tarasov, Gorbanev,  
 Suprun, Tikhomirov, Kononenko, Prokopov, Gulyga, Pliskanovskiy,  
 Ponomareva).

(Coke)

(Blast furnaces)

GABAY, M.G.; KAPLAN, F.M.

Tuberculous allergic diseases of the eye in tuberculous infants.

Pediatrics 37 no.8:30-34 Ag '59.

(MIRA 13:1)

1. Iz Detskoy tuberkuleznoy bol'nitsy No.9 Baumanskogo rayona Moskvy  
(glavnyy vrach Ye.S. Lebedeva).

(TUBERCULOSIS, PULMONARY, in infancy & childhood)

(TUBERCULOSIS, OCULAR, in infancy & childhood)

GABAY, N.L.

Concerning V.M. Popov's article "Geological regularities in the distribution of copper sandstones in central Kazakhstan and the northern Tien-Shan." Izv. AN Kazakh. SSR. Ser. geol. no. 3:106-110 '60. (MIRA 13:11)

1. Tsentral'no-Kazakhstanskoye geologicheskoye upravleniye.  
(Dzhezkazgan region--Geology)  
(Popov, V.M.)

GABAY, S.Ya.

Mesenterium commune. Sov. zdrav. Kir. no.1:56-57 Ja-F '62.

(MIRA 15:4)

1. Iz Kirgizskogo nauchno-issledovatel'skogo instituta onkologii  
i radiologii (direktor - prof. A.I.Sayenko).  
(MESENTERY)

GABAY, V.S.

36341 Lesovozobnovitel'nyye protsessy na garyakh busulukskogo bora. Nauch,-  
metod. Zapiski (Sovet ministrov refer, Glav. upr po zapovednikam.) Vyp.  
12, 1949, S. 64-70

SO: Letopis' Zhurnal' nykh Statey, No. 49, 1949

*Gabay, V.S.*  
USSR/Forestry - Forest Plants.

K-5

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10621  
Author : Gabay, V.  
Inst : -  
Title : Growing Forest Crops Without Maintenance.  
Orig Pub : S. kh. Bashkiri1, 1956, No 8, 17-19.

Abstract : The possibility is discussed of cultivating forest crops without maintenance, by using the concentrated plantation method. With this method a pine plantation was created in the Taygin Forest Economy, Kemerovskaya oblast'; it attained a height of 72 cm. in four years. In the Yumatov Forest Economy of Bashkiriya an experiment was carried out in planting pines at a density of 10-20 seedlings per square meter. The total volume of absorbent root surface of the pines (at the five year stage) proved to be significantly greater in the plot which had developed without

Card 1/2

USSR/FOREST PLANTS  
"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000513920010-0

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10621

maintenance than in the plot which had been looked after.  
It is recommended that planting be conducted at the rate of 8 or 10 per square meter.

Card 2/2

GABAY, V.S.

Effect of space arrangement on the productivity of European spindle trees. Trudy Inst. lesa 46:133-136 '58. (MIRA 11:6)

1. Moldavskaya lesnaya opytaya stantsiya.  
(Spindle tree) (Plants, Space arrangement of)



GABAY, Ya.A., podpolkovnik meditsinskoy sluzhby

Vaccination against tuberculosis. Voen.-med. zhur.no.8:

39-41 Ag'58.

(MIRA 16:7)

(MEDICINE, MILITARY) (BCG VACCINATION)

GABAY, Yn.A., podpolkovnik meditsinskoy sluzhby; IOFFE, E.L.

Detection of pulmonary tuberculosis by two-stage fluorography.  
Voen.-med. zhur. no.5:81 My '61. (MIRA 14:8)  
(TUBERCULOSIS) (DIAGNOSIS, FLUOROSCOPIC)

GABAY, Ya.A.; MEDNIKOV, M.Ya. (Baku)

Isolated plasmocytoma of the mesenteric lymph node. Arkh. pat.  
no.1:77-79 '64. (MIRA 17:11)

1. Iz Voennoy gospi'talya (nachal'nik A.A. Aslanov) i patolo-  
goanatomicheskoy laboratorii (nachal'nik M.L. Bershchanskiy).

(A) L 8181-66

ACC NR: AP5028534

SOURCE CODE: UR/0286/65/000/020/0126/0126

AUTHORS: Gatay, Ye. V.; Gofman, V. I.; Dudchenko, V. V.; Yemel'yanov, I. K. 16  
B

ORG: none

TITLE: A hydraulic pressure amplifier. Class 63, No. 175829 [announced by Omega Tractor Plant (Onezhskiy traktorny zavod)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 126

TOPIC TAGS: hydraulic device, mechanical power transmission device, mechanical hydraulic pressure amplifier, amplifier design, amplifier stage, amplifier equipment

ABSTRACT: This Author Certificate presents a hydraulic pressure amplifier containing a casing, a support for a differential lever, and a plunger (see Fig. 1).

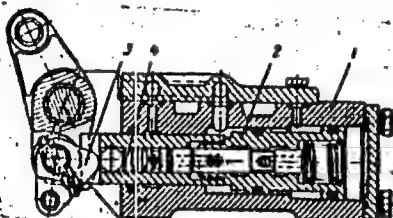


Fig. 1. 1 - Casing; 2 - piston;  
3 - support of the differential  
lever; 4 - plunger.

Card 1/2

UDC: 629.114.2:621.226

L 8481-66

ACC NR: AP5028534

To cause an automatic return of the plunger to its original position, the amplifier is made up of stages. The large-area stage is turned toward the return direction, and the space formed by the stages is permanently connected with the pressure main line. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 12Sep64

BVK  
Card 2/2

ACC NR: AP6029962

(A)

SOURCE CODE: UR/0413/66/000/015/0147/0147

INVENTOR: Gabay, Ye. V.; Dudchenko, V. V.; Chekhonina, Z. A.; Yemel'yanov, I. K.

ORG: none

TITLE: Hydraulic one-way booster. Class 63, No. 184635 [announced by Omega Tractor Plant (Onezhskiy traktorny zavod)]

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 147

TOPIC TAGS: clutch, hydraulic equipment, booster design, tracked vehicle

ABSTRACT: An Author Vertificate has been issued for a one-way hydraulic booster to be used primarily for controlling the clutch mechanism of tracked vehicles and

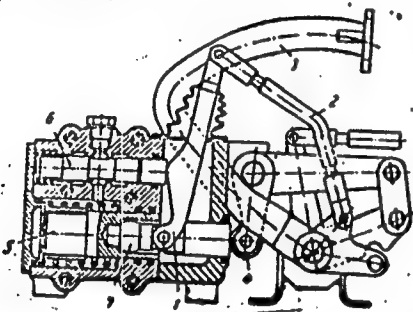


Fig. 1. Hydraulic amplifier

1 - Differential lever; 2 - pull rod; 3 - control element; 4 - drive control lever; 5 - power piston; 6 - slide valve; 7 - push rod.

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UDC: 629.114.2: :621.825.9-82

ACC NR: AP6029962

turning them (see Fig. 1). To increase its operational reliability, a differential lever of the interacting type makes contact at one end of a curved support with the end of a slide valve; the other end is articulately connected inside a channel with a push rod, which interacts with the drive control lever. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 09Dec63/

Card 2/2

GARYANTS, N.

Carburation. Za rul. 16 no.12:14-15 D '58. (MIRA 12:1)  
(Automobiles--Motors--Carburators)



GABAYDULIN, B.Kh.; MUKHAMETSHINA, S.I.

Contact code transducer for automatic control position systems.  
Stan. i instr. 34 no.11:33-34 N '63. (MIRA 16:12)

GABAYEVA, N.S. (Leningrad, L-52, 7-ya Krasnoarmeyskaya ul., 15, kv.11.)

Development of the vitelline membrane of the frog. (*Rana temporaria*),  
ovum. *Ankh. anat., gist. i embr.* 44 no.4:55-63 Ap '63.  
(MIRA 17:6)

1. Kafedra embriologii (zav.-doktor biol. nauk prof. B.P. Tokin)  
Leningradskogo gosudarstvennogo universiteta.

MIKHAYLOVA, I.G.; GABAYEVA, N.S.

Aseptic inflammation in the uterine wall of a white mouse. Vest.  
LGU 14 no.21:141-145 '59. (MIRA 12:10)  
(UTERUS) (PHAGOCYTOSIS)

GABAYEVA, N.S.

The frog and bacteria. Vest. LGU 15 no.3:143-149 '60.

(MIRA 13:1)

(Ovum) (Frogs) (Bacteria)

GAEAYEVA, N.S.

Effect of the gelatinous membrane of frog eggs on some bacteria;  
the problem of embryonic immunity. Nauch. dokl. vys. shkoly;  
biol. nauki no.4:43-47 '61. (MIRA 14:11)

1. Rekomendovana kafedroy embriologii Leningradskogo gosudarstvennogo  
universiteta im. A.A.Zhdanova. .  
(IMMUNITY) (FISHES---EGGS)

GABAYEVA, N.S.

Antibiotic characteristics of the jellylike membrane of the frog's  
egg. Vest. LGU 17 no.15:25-32 '62. (MIRA 15:8)  
(ANTIBIOTICS) (AMPHIBIA--EGGS)

TOKIN, I.B.; GABAYEVA, N.S.

Electron microscopic study of the surface sections of the  
oocytes of *Rana temporaria*. Vest. LGU 18 no.15:158-160'63.

(MIRA 16:9)

(EMBRYOLOGY--AMPHIBIA) (OVUM)

SHALUMOVICH, V.N.; GABAYEVA, N.S.

Determination of the localization of nucleoproteids in the oocytes of the frog (*Rana temporaria*) by the methods of ultra-violet and luminescence microscopy. Dokl. AN SSSR 152 no.6: 1461-1464 0 '63. (MIRA 16:11)

1. Leningradskiy pediatricheskiy meditsinskiy institut i Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova. Predstavleno akademikom N.N. Anichkovym.



RAYTMAN, T.; GABAYEVA, T.

Readers discuss the journal. Kozh.-obuv.-rom. no.12:12  
D '59. (MIRA 13:5)

1. Zav. bibliotekoy Obuvnoy fabрики imeni Kapranova (for Raytman).
2. Starshiy inzhener oddela tekhnicheskoy informatsii Obuvnoy fabрики imeni Kapranova (for Gabayeva).  
(Leather industry--Periodicals)

S/123/62/000/018/005/012  
A006/A101

AUTHORS: Ivanchenko, A. P., Dumchus, N. V., Gabayeva, Z. N., Avdeyev, D. T.

TITLE: The effect of oxidation of connected surfaces upon the strength of pressed joints

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 18, 1962, 27, abstract 18A166 ("Tr. Novocherk. politekhn. in-ta", 1961 (1962) 127, 63 - 66)

TEXT: The authors describe the methods and results of investigating the effect of oxidation upon the strength of pressed joints during short time intervals between the unpressed state and repeated pressing. The results of investigations show that the strength of a repeatedly press-formed joint increases if the time of holding the joint parts in the unpressed state, does not exceed one hour. Holding over 3 hours reduces the strength of repeatedly pressed joints. A reduction of the repeated pressing force observed at short holding time (up to 10 min) is apparently explained by the appearance of an elastic after-effect: deformations of the shaft and bushing can not fully disappear. ✓

[Abstracter's note: Complete translation]

Card 1/1

IMANGAZIYEV, Kenes Imangaziyevich, doktor sel'skokhozyaystvennykh nauk;  
GABRASOV, A.M., spets. redaktor; SAVICH, M.P., redaktor; ZLOBIN,  
M.V., tekhnicheskii redaktor

[System of fertilizing in a crop rotation system including beets  
on irrigated land] Sistema udobreniia rastenii sveklovichnogo  
sevooborota v oroshaemom zemledelii. Alma-Ata, Kazakhskoe gos.  
izd-vo, 1956. 294 p. (MLR 10:3)  
(Fertilizers and manures) (Sugar beets)

GABRASOV, A.M.

Dry farming in the desert of the desert of the southern Balkhash region. Vest.AN Kazakh.SSR 12 no.6:30-36 Je '56. (MLBA 9:8)

1. Chlen-korrespondent AN KazSSR.  
(Balkhash region--Dry farming)

USSR/Cultivated Plants - General Problems.

M-1

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29632

Author : Gabbasov, A.M.

Inst : "

Title : On Non-Irrigated Plant Raising in the Deserts of Kazakhstan.

Orig Pub : Izv. AN KazSSR, ser. biol., 1957, vyp. 1, 3-12.

Abstract : Methods of raising plants without irrigation are explained which were worked out in Central Kazakhstan (Dzhezhgazan), in the Southern area around the Lake of Balkhash and at Karoy in 1939-1957. The experimental complex used in non-irrigational agrotechnics included an optimal low sowing rate (26-50 kg/ha. for wheat), broad-row planting with 45 cm between the rows, deep untterraced tilling, the use of the drought-resistant Eritrospermum 841 desert reproduced variety, snow retention and the use of fallows; this made it possible to obtain 3-16 centners per hectare of summer

Card 1/2

- 1 -

USSR / Cultivated Plants. General Problems.

M-1

Abs J ur: Ref Zhur-Biol., No 16, 1958, 24919

Author : Gabbasov, A. M.

Inst : Institute of Botany, Academy of Sciences,  
Kazakh SSR

Title : The Deserts of Central Kazakhstan and Methods of  
their Agricultural Reclamation

Orig Pub: Tr. In-ta botan. AN KazSSR, 1957, 5, 3-17

Abstract: Deserts occupy 51% of the total area of Kazakhstan.  
stan: the wormwood and halophytic, sandy, the  
solonchak and solonetz, the wormwood and ephem-  
eral, the ephemeral and the salt-wort plus wormwood  
complexes. In Central Kazakhstan the first type  
is most widely represented, the second and third  
are more poorly distributed and the latter three  
are found only in South Kazakhstan. The natural

Card 1/2

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**APPROVED FOR RELEASE: 03/13/2001**

**CIA-RDP86-00513R000513920010-0"**

GABRASOV, A. M.

Growing plants without irrigation in the deserts of Kazakhstan  
and prospects for further research. Vest. AN Kazakh. SSR 14 no.1:  
48-61 Ja '58. (MIRA 11:2)

1. Chlen-korrespondent AN KazSSR.  
(Kazakhstan--Dry farming)



GABBASOV, A.M.

Shrub shelterbelts and dry farming in the deserts of Kazakhstan.  
Vest, AN Kazakh, SSR 14 no.8:10-21 Ag '58. (MIRA 11:10)

1. Chlen-korrespondent AN KazSSR.  
(Dzhezkazgan region--Windbreaks, shelterbelts, etc.)

GABRASOV, A.M.

New crop varieties. Vest. AN Kazakh. SSR 16 no. 4:85-87  
Ap '60. (MIRA 13:7)

1. Chlen-korrespondent AN KazSSR.  
(Grain--Varieties)

GABBASOV, A.M., akad.

Research on breeding spring wheat under dry farming conditions in the desert area of central Kazakhstan. Vest.Kazakh.SSR 16 no.9: 3-14 S '60. (MIRA 13:9)

1. Akademiya sel'skokhozyaystvennykh nauk KazSSR.  
(Kazakhstan--Wheat breeding)

GABBASOV, A.M.; VOLKOVICH, K.V.

Development and growth of corn in the new zone. Vest. AN Kazakh.  
SSR 18 no.7:38-43 J1 '62. (MIRA 15:7)  
(Balkhash Lake region--Corn (Maize)--Varieties)



SABIROV, Kh.Sh.; PETRIK, A.P.; GABBASOV, G.Kh.; SYROV, Ye.Kh.

Residual water saturation of carbonate rocks in the oil and gas fields of reef origin in the Cis-Ural Trough. Neftaprom. delo no.11:3-4 '64. (MIRA 18:3)

1. TSekh nauchno-issledovatel'skikh i proizvodstvennykh rabot nef'tepromyslovogo upravleniya "Ishimbayneft".

GABRASOVA, M.A.; VALIDOV, I.G.

Effect of temperature on the posttetanic intensification of the  
contraction of muscles. Nauk.zap.Kiev.un.8 no.7:297-308 '50  
[i.e. '49]. (MLRA 9:10)  
(TEMPERATURE--PHYSIOLOGICAL EFFECT) (MUSCLES)

GABBASOVA, M.A.; KHARISOVA, A.Sh.

Effect of hemosporidin (LP) on heart innervation in frogs. Uch.zap.  
Kaz.un. 116 no.5:181-184 2 '56. (MIRA 10:4)

. (Heart--Innervation) (Veterinary materia medica and pharmacy)



GABEOSOV, A. G.

Cand Med Sci - (diss) "Internal structure and innervation of the muscles of the subsutural /podshevnyaya/ surface of the human foot." Kazan', 1961. 18 pp; (Ministry of Public Health RSFSR, Kazan' State Med Inst); 200 copies; free; (KL, 7-61 sup, 257)

GABBASOV, M.

Twenty-fifth anniversary of a farm-mechanization school. Prof.-  
tekh. obr. 18 no.9:23 S '61. (MIRA 14:11)

1. Sekretar' Priishimskogo raykoma Kommunisticheskoy partii  
Kazakhstana.

(North Kazakhstan Province--Farm meehanization--Study and teaching)

MUSIN, A.Ch. [deceased]; YEROFYEV, N.P.; CHABDAROVA, O.I.; RUSAKOV, G.D.;  
GABBASOVA, N.A.

Determining the supportability of massive and support pillars as  
applicable to the conditions of the Dzhezkazgan Mine. Izv. AN Ka-  
zakh. SSR. Ser.tekh. i khim.nauk no.3:69-76 '64. (MIRA 17:2)

YESPOEYEV, N.P.; SHABBAROVA, Yu.I.; GABBASOVA, N.A.

Methods of studying the effect of fracture tectonics and structural characteristics on the stability of mine workings in Dzhezkazgan mines. Trudy Inst. gor. doln. kuzn. Kazakh. SSR 19:95-105 '65.  
(MIRA 18:12)